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(54) Paper-punch provided with a paper-guide

(57) A hole-punch (1) comprising a base (2) and an actuating handle (4) is provided with a paper-guide (5) retractably mounted on the base (2). The paper-guide is a telescopic unit comprising at least two (6, 7) telescopically inter-connected members.

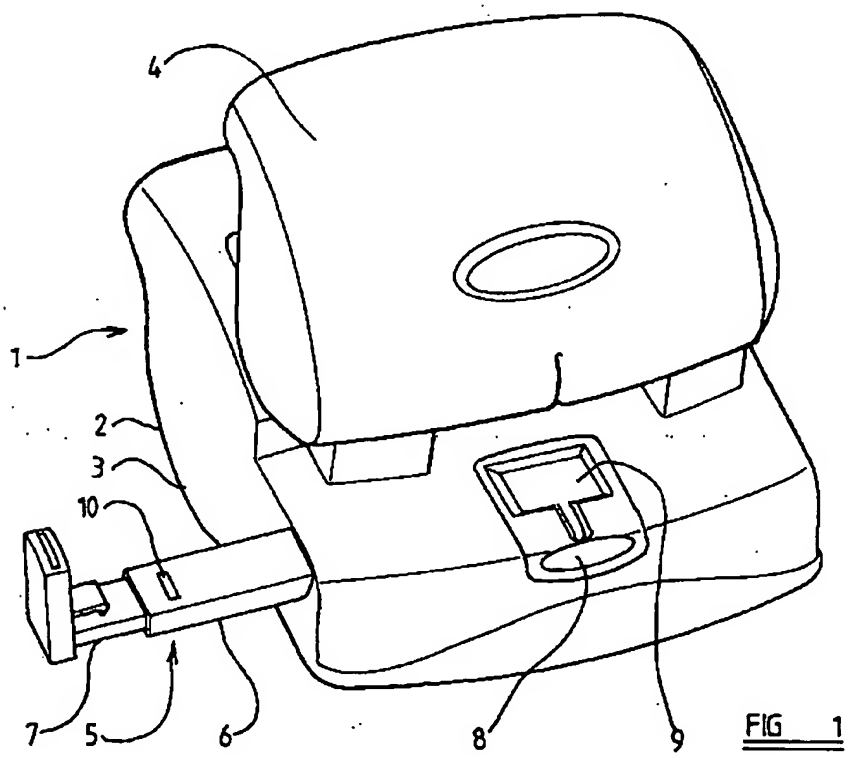

FIG 1

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Description

[0001] **THE PRESENT INVENTION** relates to a paper-punch, and more particularly relates to a desk-top paper-punch. The invention may find a particular application for a desk-top paper-punch intended to punch two holes in each sheet of paper to facilitate filing of the paper, but may also find application in hole-punches adapted to punch a greater number of holes.

[0002] It has been proposed to provide a paper-punch with a paper-guide. The function of the paper-guide is to ensure that the paper is appropriately positioned so that when the punch is actuated, the holes that are produced in the paper are in the correct position.

[0003] A typical guide is formed from a metal element which protrudes from the base of the punch, the metal element comprising an elongate arm carrying, at its free end, an upstanding plate. The arm may be retractably mounted on the base, and the arm may be such that the arm may be slid in and out of the base between one or more predetermined extended positions, each extended position corresponding to a different conventional size of paper.

[0004] For many conventional sizes of paper, the plate provided at the end of the arm has to be located a substantial distance away from the plungers of the hole-punch that actually create the holes. For example, with a conventional punch for punching A4 size paper, the plate is approximately 11cms. away from the closest plunger. This means that the paper-guide has to be of a substantial length. Whilst this is not an inconvenience with very large size paper punches adapted to punch a substantial number of sheets at one time, the provision of a large paper-guide is not appropriate with a relatively small or compact paper punch which may have a base which is as small as 11cms. x 9cms.

[0005] The present invention seeks to provide an improved paper-punch.

[0006] According to this invention there is provided a hole-punch, the hole-punch comprising a base provided with dies defining apertures, and plungers moveable relative to the base to engage the dies to punch holes in paper, an actuating handle actuable to move the plungers, there being a paper-guide retractably mounted on the base, the paper-guide comprising a telescopic unit, including an inner member and an outer member which are telescopically interconnected.

[0007] Preferably the outer member is of tubular form and is of rectangular cross-section, and is slidably mounted to be retractable within part of the base.

[0008] Conveniently a latch mechanism is provided to retain the outer element in the base, a push-button being provided to release the mechanism.

[0009] Advantageously part of the outer element is provided with indicia thereof at predetermined spacings, and a viewing aperture is provided in the base to view an indicium when the outer element is in any one of a plurality of selected predetermined positions.

[0010] Preferably the inner element comprises an elongate plate received within the outer element, the inner element and the outer element having co-operating catch means engageable to retain the elements in at least one predetermined position.

[0011] Conveniently the catch means comprise an aperture formed in the outer element, and at least one catch carried by the inner element.

[0012] Preferably the inner element is provided with a catch at one end thereof which is provided with an upstanding plate which acts as a guide plate for paper, the catch comprising a tab which is manually actuable, the tab being associated with a catch element engageable with the aperture.

[0013] Advantageously the inner element is provided with a catch adapted to engage the aperture in the outer element, when the inner element is in a predetermined extended position relative to the outer element, the catch comprising a resilient finger carrying a projection engageable with the aperture.

[0014] In order that the invention may be more readily understood, and so that further features thereof may be appreciated, the invention will now be described, by way of example, with reference to the accompanying drawings in which:

FIGURE 1 is a perspective view of a hole-punch in accordance with the invention, which incorporates a telescopic paper-guide,

FIGURE 2 is a side view of the paper-guide when in the closed condition,

FIGURE 3 is a sectional view of the paper-guide when in the closed condition,

FIGURE 4 is a side view of the paper-guide when in the partially open position,

FIGURE 5 is a perspective view of the paper-guide when in the partially open position, and

FIGURE 6 is a view illustrating the end of the inner part of the paper-guide.

[0015] In embodiments of the invention the paper-guide is a unit which is retractably mounted to the base of the paper-punch, but the paper-guide unit itself comprises two telescopically inter-engaged members. Consequently, by using members each having a length which is only of the same order of magnitude as the width of a compact hole-puncher, it is possible to provide a paper-guide which may be used with many conventional sizes of paper, having an appropriate extended length.

[0016] Referring initially to Figure 1 of the accompanying drawings, a hole-punch 1 comprises a base 2, the upper surface of which defines a platform 3 to receive

the edge part of sheets of paper which are to be punched. The platform is provided with dies which define apertures. Located above the dies are plungers which are associated with an actuating handle 4 which is pivotally mounted to the base 2. The actuating handle 4 maybe moved downwardly to drive the plungers downwardly into the dies to perforate paper located between the plungers and the dies.

[0017] Retractably received within the base is a paper-guide unit 5. The paper-guide unit 5 comprises an outer tubular element 6 which is of rectangular cross-section, that outer element telescopically receiving an inner element 7.

[0018] The outer element 6 is retractably mounted within the base 2. The outer element 6 may initially be retained in position within the base by a catch mechanism, and the catch mechanism may be released by actuating a press-button 8 mounted on the base 2 of the hole-punch. The outer element 6 may then be slid to a predetermined position if the hole-punch is to be used with a single conventional size sheet of paper, such as solely A4 paper, or may be moved to a selected position if the hole-punch is to be capable of being used with conventional papers of different sizes. In the embodiment shown, the base is provided with a viewing window 9 which is co-aligned with part of the tubular outer element 6, and the outer part of the tubular element 6 is provided with indicia at predetermined positions therealong, the arrangement being such that when a predetermined indicia is present in the window 9, the outer tubular member 6 is positioned to enable the paper-guide to be used with paper of a size as identified by the indicia. Thus, the outer element may be selectively positioned in dependence upon the size of the paper to be punched.

[0019] The outer tubular element 6 defines, adjacent the protruding end thereof, a rectangular aperture 10.

[0020] The inner element 7 comprises an elongate plate 11 which is adapted to received slidably within the outer tubular element 6. The free end of the plate 11 is provided with two axially extending spaced-apart fingers which define an opening therebetween, the fingers supporting an upstanding guide plate assembly 12. The upstanding guide plate assembly 12 incorporates within it a manually actuable tab 13 which serves to move pivotally a horizontally extending finger 14 which has, at its free end, a depending catch 15. The catch 15 is located above the opening between the two spaced-apart fingers and may thus move freely without engaging the plate 11. In an initial or retracted position of the inner element 7 relative to the outer tubular element 6, the catch 15 is received within the aperture 10. However, by actuating the tab 13, which causes the arm 14 to move upwardly, as indicated by the arrows present in Figure 3, the depending catch 15 is released from the aperture 10 enabling the inner element 7 to move telescopically relative to the outer element 6.

[0021] The other end of the inner element is provided with a resilient catch, as shown in Figure 6. The resilient catch comprises a resilient axially extending finger 16 provided with an upwardly directed projection 17, one face 18 of the projection being vertical and the other face 19 being inclined. It is to be appreciated that if the inner element 7 is pulled outwardly from the outer element 6, after the catch 15 has initially been released, the inner element 7 will move outwardly until the catch shown in Figure 6 becomes aligned with the aperture 10, when the projection 17 will be driven, by the resiliency of the finger 16, upwardly into the aperture 10, thus preventing further outer movement of the inner telescopic element 11. The paper-guide then has a predetermined length, and, depending on the position of the outer tubular element 6 relative to the base 2, there is a precisely predetermined distance between the plungers and the guide plate assembly 12.

[0022] It is to be appreciated that the paper-guide may be used in a conventional manner, and, after use, may be again moved to a retracted position. A simple inward force applied to the end plate 12 of the inner element 11 will cause the catch constituted by the resilient arm 16 and the protrusion 17 to become disengaged from the aperture 10 as the inclined face 19 of the projection 17 will engage the edge of the aperture 10, thus deflecting the resilient arm 16. The inner element may then be moved telescopically inwardly relative to the outer element 6 until the catch 15 again engages the aperture 10. The combination of the inner element 6 and the outer element 7 may then be slid into the base 2 of the hole-punch until the complete paper-guide is in a totally retracted position.

[0023] It is to be appreciated that by adopting a telescopic unit as a paper-guide, a hole-punch which is of a compact size may be provided with a paper-guide which is capable of guiding paper of one or more conventional sizes, without a substantial increase in the overall size of the hole-punch.

[0024] Whilst the invention has been described, with reference to an embodiment having two elements that are telescopically interconnected, the telescopic paper-guide may comprise three or more telescopically interconnected elements.

[0025] In the present Specification "comprises" means "includes or consists of" and "comprising" means "including or consisting of".

[0026] The features disclosed in the foregoing description, or the following Claims, or the accompanying drawings, expressed in their specific forms or in terms of a means for performing the disclosed function, or a method or process for attaining the disclosed result, as appropriate, may, separately, or in any combination of such features, be utilised for realising the invention in diverse forms thereof.

Claims

1. A hole-punch, the hole-punch comprising a base provided with dies defining apertures, and plungers moveable relative to the base to engage the dies to punch holes in paper, an actuating handle actuable to move the plungers, there being a paper-guide retractably mounted on the base, the paper-guide comprising a telescopic unit, including an inner member and an outer member which are telescopically interconnected.

2. A punch according to Claim 1 wherein the outer member is of tubular form and is of rectangular cross-section, and is slidably mounted to be retractable within part of the base.

3. A punch according to Claim 2 wherein a latch mechanism is provided to retain the outer element in the base, a push-button being provided to release the mechanism.

4. A punch according to Claim 2 or 3 wherein part of the outer element is provided with indicia thereof at predetermined spacings, and a viewing aperture is provided in the base to view an indicium when the outer element is in any one of a plurality of selected predetermined position.

5. A punch according to any one of the preceding Claims wherein the inner element comprises an elongate plate received within the outer element, the inner element and the outer element having cooperating catch means engageable to retain the elements in at least one predetermined position.

6. A punch according to Claim 5 wherein the catch means comprise an aperture formed in the outer element, and at least one catch carried by the inner element.

7. A punch according to Claim 7 wherein the inner element is provided with a catch at one end thereof which is provided with an upstanding plate which acts as a guide plate for paper, the catch comprising a tab which is manually actuable, the tab being associated with a catch element engageable with the aperture.

8. A punch according to Claim 7 or 8 wherein the inner element is provided with a catch adapted to engage the aperture in the outer element, when the inner element is in a predetermined extended position relative to the outer element, the catch comprising a resilient finger carrying a projection engageable with the aperture.

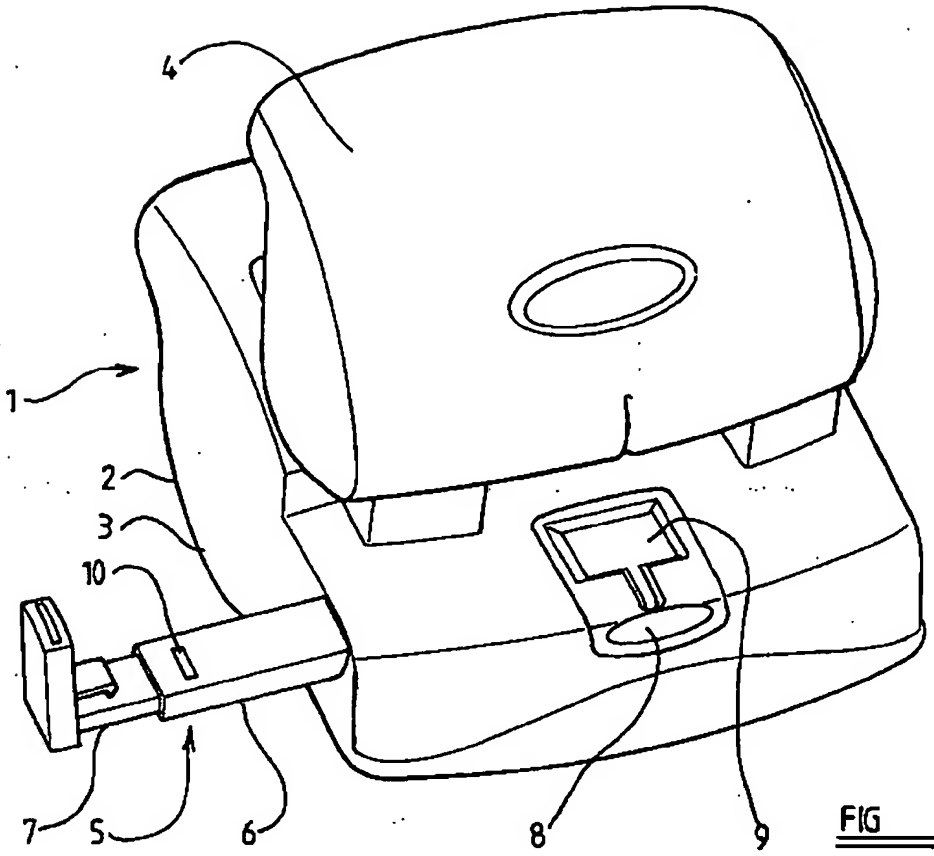

FIG 1

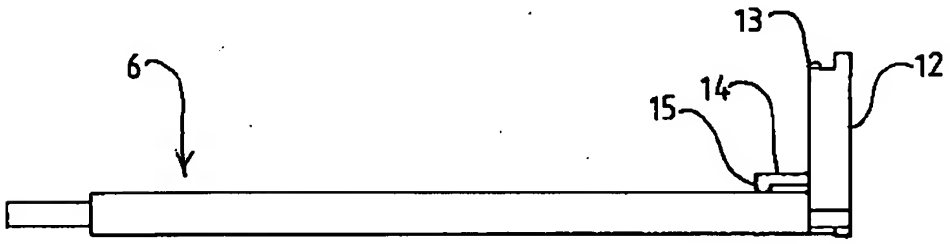

FIG 2

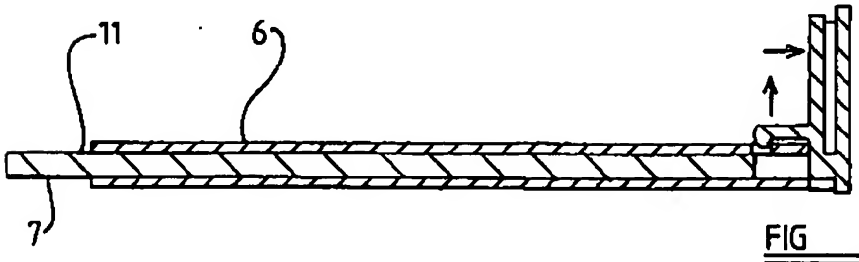

FIG 3

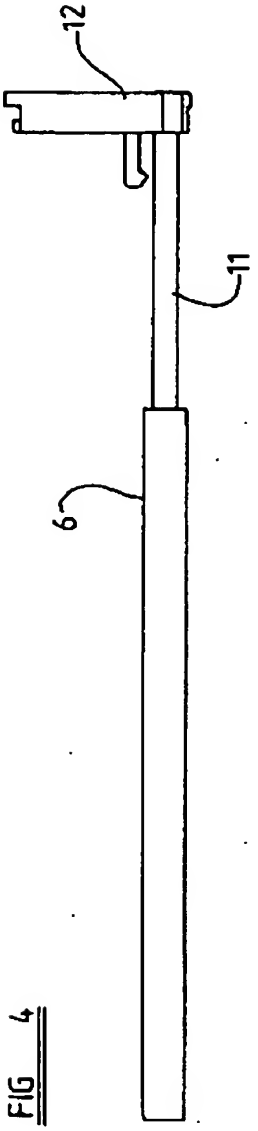

FIG 4

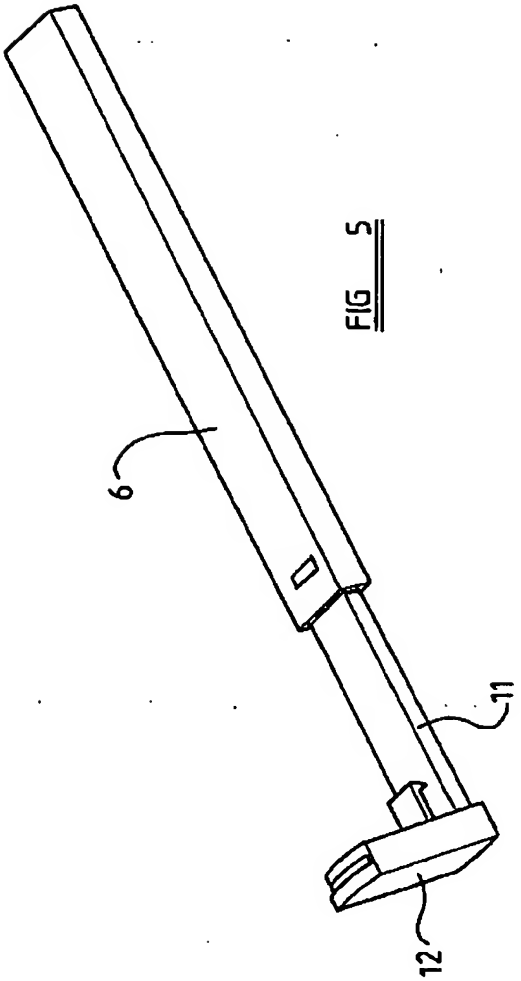

FIG 5

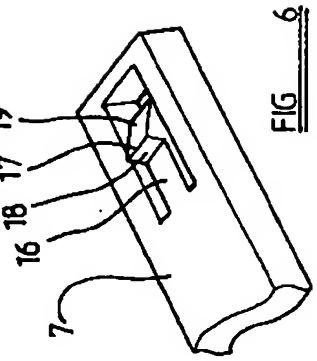

FIG 6